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of them died. The most frequent signs and symptoms were abdominal pain 11 (50.0%), headache 15 (68.2%); vomits 14 (63.0%), and jaundice 8 (36.0%) and conjunctivitis 4 (18.2%). There were 6 (27.3%) patients with acute renal failure (ARF), in which 50% required hemodialysis with 2 (3.3%) deaths. Thrombocytopenia was observed in 6 (27.3%) and albuminuria was present in 9 (40.9%). In 50% of patients with ARF thrombocytopenia (<100,000 mm) was present.

Conclusion: This is the first leptospirosis outbreak that has been reported in country. An important risk factor was flooding secondary to tropical storm. It is important to mobilize health care team to surveillance directly to the areas affected by tropical storm to detected and give prophylaxis treatment.

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Mycobacterial Epidemiology Including Drug-Resistance (Poster Presentation)

50.001

Multiple Nucleotide Change in the rpoB gene of *Mycobacterium tuberculosi* Isolates Correlate with High-level of Resistance to Rifampicin in Belarusian Patients with Active Pulmonary

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The aim of this study was to investigate the significance of multiple-mutations in the rpoB gene, predominant nucleotide changes and its correlation with high levels of resistance to rifampicin in *Mycobacterium tuberculosis* isolates that were randomly collected from sputa of 44 patients with primary and secondary active pulmonary tuberculosis from different region of Belarus. Drug susceptibility testing was determined using the CDC standard conventional proportional method. DNA extraction, rpoB gene amplification, and DNA sequencing analysis were performed. Thirt- three (75%) isolates were found to have multiple-mutations (composed of 2—5 mutations) in the rpoB (β-subunit) gene. Increased number of predominant mutations and nucleotide changes were demonstrated in codons 523 (GGG→GCG), 531 (TCG→TTG), 510 (CAG→TAG, GAG, AAG) and 526 (CAC→CTC, GAC) with a higher frequency of mutations found among patients presenting with secondary tuberculosis infection with elevated levels of resistance to rifampicin (MIC μg/ml ≥ 100). Furthermore it was demonstrated that the combination of mutations with their predominant nucleotide changes were also observed in codons 510, 523, 526, and 531 indicating higher frequencies of mutations among patients with secondary infection respectively. In this study, 76% ($n = 38$) of multiple-mutated isolates were found to have mutation combinations involving nucleotide changes in codons 523 (GGG→GCG), 531 (523—531) are associated with higher levels of resistance to rifampicin (≥100 μg/ml).

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50.002

Molecular Investigation of Recurrent Tuberculosis in Rwanda: Reactivation versus Reinfection

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We investigated the clinical outcome of MDR versus non-MDR tuberculosis and the cause of recurrences in Rwandese patients by DNA fingerprinting. From January 2002 to September 2005, 710 patients in 4 provinces were studied. Initial drug susceptibility results available for 638 patients, classified 68 (10.8%) patients as habouring Mycobacterium tuberculosis isolates resistant to at least isoniazid and rifampin (multidrug resistance, MDR), and 570 patients as non-MDRTB patients. Among the 68 MDRTB patients, 21 who failed treatment had follow-up isolates. Among the 570 patients, 558 were cured and 12 were lost to follow-up. Recurrent disease was recorded in 2 of 558 non-MDRTB and 11 MDRTB patients with follow-up isolates. DNA patterns of sequential isolates from 5 patients (3 MDR and 2 non-MDR) TB patients were different, indicating reinfection caused the recurrence. Mixed infection was detected in one non-MDRTB case. Indistinguishable DNA patterns were obtained from isolates of the other 8 MDRTB patients suggesting reactivation or treatment failure as the cause of the recurrence. Follow-up isolates from all the 10 chronic MDRTB patients had identical DNA patterns, indicating treatment failure. These results document a high treatment failure rate for MDRTB and show that reinfection is an infrequent cause of recurrent TB in this setting.

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